<div align="center">**REMARKS**</div>

Claims 22-44 and 46-59 are currently pending in the subject application and are presently under consideration. Claims 25, 48 and 58 have been amended as shown on pp. 2, 5 and 7 of the Reply and claim 27 has been cancelled. The amendments to the independent claims incorporate limitations recited in claims previously presented (dependent claim 27). Accordingly, it is submitted that no new search is required and it is respectfully requested that the amendments be entered. Applicants' representative believes that the present application is now in condition for allowance, which prompt and favorable action is respectfully requested.

The Examiner is thanked for courtesies extended during a discussion related to this case conducted on June 20, 2008. The main focus of the discussion was on deficiencies of the 35 U.S.C. §102(b) rejections. While the presented matter generally related to all the claims, the crux was upon claim 25. In particular, specific functionality regarding the quality cost benefit analyzer related to the above amendment to claim 25 was discussed generally in view of Robinson (US 5,884,282), Altschuler, *et al.* (US Patent 6,012,052), Smolen (US 5,915,243), and Fayyed, *et al.* (US 6,643,645). The Examiner is thanked for providing valuable insight on how he would review the proposed amendments. The discussion was conducted with Ronald Krosky (Reg. No. 58,564) and Examiner Cheung.

Favorable reconsideration of the subject patent application is respectfully requested in view of the amendments and comments herein.

I.   **Rejection of Claims 25-34, 36-44, 46-55 and 57-59 Under 35 U.S.C. §103(a)**

Claims 25-34, 36-44, 46-55 and 57-59 stand rejected under 35 U.S.C. §102(b) as being anticipated by Robinson (US 5,884,282) in view of Altschuler, *et al.* (US Patent 6,012,052), Smolen (US 5,915,243) and Fayyed, *et al.* (US 6,643,645). This rejection should be withdrawn for at least the following reasons. Robinson alone or in combination with Altschuler, *et al.*, Smolen and/or Fayyed, *et al.* does not teach or suggest each and every aspect of the subject claims.

> *[T]he prior art reference (or references when combined) must teach or*
> *suggest all the claim limitations.* See MPEP § 706.02(j). *See also KSR*
> *Int'l Co. v. Teleflex, Inc.*, 550 U. S. ____, 04-1350, slip op. at 14 (2007).
> The teaching or suggestion to make the claimed combination and the

reasonable expectation of success must be found in the prior art and not based on applicant's disclosure. *See In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

Applicants' claimed subject matter relates to a system and method that predicts and selectively collects attribute values based on personality diagnosis. In particular, the system minimizes the number of explicit queries to the user while maximizing accuracy of a calculated personality probability. To this end independent claims 25, 48 and 58 recite, similar aspects, namely, *weighing a cost of disturbing the user against a benefit of providing the user with the recommendation prior to providing the user with the recommendations.* The cited references, alone or in combination, fail to teach these novel aspects.

Robinson teaches a collaborative filtering system that simply compares ratings of items of an active user with previously obtained ratings of items of a plurality of disparate users to generate a prediction and/or provide the active user with a recommendation. Robinson relates to a system that determines a similarity value for a first user as compared with disparate users that have provided a rating for items rated by the first user. However, Robinson does not disclose utilizing *personality types* as claimed and defined in the specification to generate predictive values for unknown attributes as recited in the subject claims and defined in the specification wherein a *personality type* is defined as a vector of the user's "true" values for attributes in a database, where "true" values are obtained by assuming that users report values with a distributed error (*See* pg 15, lines 10-17). Robinson does not consider that a user can alter attributes depending on context (*e.g.,* time of day, current mood of the user, …), and fails to disclose contemplating that users report values with distributed error. Furthermore, Robinson is silent with respect to *weighing a cost of disturbing the user against a benefit of providing the user with the recommendation prior to providing the user with the recommendations.* The Examiner asserts on page 5 of the Final Office Action (dated April 21, 2008) that Robinson teaches weighing a cost of disturbing the user against a benefit of providing the user with the recommendation prior to providing the user with the recommendations. Applicants' representative respectfully disagrees with the assertion. At the cited paragraph (or anywhere in the reference) Robinson does not teach or suggest determination of whether or not to query the user for an attribute value based on a cost-benefit analysis. Independent claims of the subject application clearly specify *weighing a cost of disturbing the user against a benefit of providing*

the user with the recommendation. Specifically, Applicants claimed subject matter relates to a cost benefit analysis wherein users can be queried about titles in decreasing expected value of information order until the expected cost of additional information outweighs the expected benefit of improved predictive accuracy given the additional information. Robinson is silent with respect to this novel aspect.

Altschuler, *et al.* relates to a system and method for building resource and attribute transition probability models for pre-fetching resources, editing resource link topology, building resource link topology templates and collaborative filtering. Altschuler, *et al.* fails to teach or suggest a system that employs personality types to predict attribute values. Further, Altschuler, *et al.* does not teach limiting the number of explicit queries and/or pruning a database based on an expected value of information. Furthermore, Altschuler, *et al.* is silent with respect to weighing a cost of disturbing the user against a benefit of providing the user with the recommendation and thus does not remedy the aforementioned deficiencies of Robinson with respect to the subject claims.

Smolen merely relates to a method and apparatus for delivering promotions to a person or household on the basis of a dynamic information profile for that person or household, the dynamic information profile being formed by creating an initial information profile for the person or household, selecting one or more questions based on the state of the information profile, presenting the one or more questions to a person in the household, collecting the responses to the one or more questions, and updating the information profile using the responses to the questions (*See Summary*). Additionally, Smolen teaches that the desirability of questions can be affected by design of the questions profile considerations. The specific considerations for asking questions can be predetermined depending upon the goal of the promotions. In a preferred embodiment, it is often desirable to ask a question that will eliminate the largest and most equal number of other questions regardless of its answer. Thus, the system disclosed by Smolen employs a profile value to select specific questions that can be posed to a user and the selection of the question is simply based on a benefit (*e.g.* promotion goals). However, Smolen fails to determine the costs associated with posing the questions to a user. Further, Smolen is silent with respect to a query cost-benefit analyzer that weighs a cost of disturbing the user against a benefit of providing the user with the recommendation prior to providing the user with the recommendations.

Further, Fayyed, *et al.* relates to a system that reduces data requirements of existing recommender engines by performing a type of data reduction that minimizes the loss of information given the engine. However, Fayyed, *et al.* is silent with respect to a cost benefit analysis and fails to make up for the aforementioned deficiencies of the cited references with respect to the independent claims.

Applicants' subject claims, in contrast, disclose a query cost/benefit analysis process to determine whether or not to query the user for an attribute value. The query cost/benefit analysis process employs expected value of information as the benefit component in a cost-benefit analysis and a cost of gathering the information represents the cost component. The cost can be represented as a monotonic function of the number of queries the user has been asked to answer. Such cost representation can reflect the frustration experienced by a user with each additional rating requested. Thus, in an explicit service employing such cost functions, users could be queried about titles in decreasing expected value of information order until the expected cost of additional information outweighs the expected benefit of improved predictive accuracy given the additional information (*See* page 29 line 26, to page 30 line 14). The cited references do teach or suggest the above mentioned novel aspects of a cost-benefit analysis.

In view of at least the foregoing, it is readily apparent that Robinson, alone or in combination with Altschuler, *et al.,* Smolen and/or Fayyed, *et al.* fails to teach or suggest all features of applicants' invention as recited in independent claims 25, 48 and 58 (and claims 26-34, 36-44, 46-47, 49-55 and 57-59 that depend therefrom), and thus fails to make obvious the subject claims. Accordingly, it is respectfully requested that this rejection be withdrawn.

II.   Rejection of Claims 35 and 56 Under 35 U.S.C. §103(a)

Claims 35 and 56 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Robinson (US 5,884,282) in view of Altschuler, *et al.* (US Patent 6,012,052), Smolen (US 5,915,243) and Fayyed, *et al.* (US 6,643,645) as applied to claims 34 and 48 above, and further in view of Knight, *et al.* (US 6,571,234). This rejection should be withdrawn for at least the following reasons. Robinson alone or in combination with Altschuler, *et al.*, Smolen, Fayyed, *et al.* and/or Knight, *et al.* does not teach or suggest each and every aspect of the subject claims.

Claims 35 and 56 depend from independent claims 25 and 48 respectively. Knight, *et al.* relates to a system and method for managing an online message board. Specifically, the system

teaches eliminating or pruning unpopular categories of data to reduce clutter on an interface seen by a user. However, Knight, *et al.* does not teach removal of attributes *that add little benefit to the accuracy of recommendations, from a database*. Applicants' subject claims, in contrast, relate to a system that employs expected value of information to prune entries (e.g. attributes) from those stored to reduce time and space complexity (*See* page 30, lines 24-32 and page 31, lines 1-11). Further, Knight, *et al.* is silent with respect to weighing a cost of disturbing the user against a benefit of providing the user with the recommendation prior to providing the user with the recommendations and thus fails to cure the aforementioned deficiencies of Robinson, Altschuler, *et al.*, Smolen, and/or Fayyed, *et al.* with respect to independent claims 25 and 48. Accordingly, it is respectfully requested that this rejection be withdrawn.

<div align="center">CONCLUSION</div>

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP293USA].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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